

that seal a preload chamber portion of a housing chamber such that air within the preload chamber portion is compressed as a ram member drops below a preload position defined by a vent port in the housing member.

The Fleishman reference relates to a relatively conventional drop hammer that clearly does not disclose a vent port defining a preload position or that air is compressed within a preload chamber portion when the ram member moves below the housing member. To the contrary, this reference states in its Abstract that “[t]he sleeve may include an escape path for air, moisture and the like which may be within the tube and displaced therefrom by the *free falling* ram” (emphasis added).

The Applicant respectfully submits that nothing in the Fleishman reference suggests that the “escape path” is arranged such that air is compressed after the ram drops below a predetermined position. To the contrary, this reference clearly indicates that the ram is “free falling”, a condition that is not found when a falling ram compresses air underneath the ram. The compressed air will exert an arresting force on the falling ram. The Applicant respectfully submits that the Fleishman reference fails to disclose, teach, or suggest a drop hammer with a structure that compresses air underneath the ram as the ram drops.

With respect to the combination of the Fleishman reference with the Scheid reference, the Applicant respectfully submits that this combination is improper. The Scheid reference clearly relates to a diesel hammer. A diesel hammer employs ignited diesel oil to apply a driving force on a pile, while a drop hammer uses the force of gravity on a falling ram to apply a driving force on a pile.

Conventionally, drop hammers have been designed without seals at the ram member to allow the ram to free fall as described in the Fleishman reference. Simply grafting seals as recited in the Scheid reference onto a drop hammer as recited in the Fleishman reference would effectively prevent movement of the drop hammer without provision of a vent port as recited in the claims. The vent port recited in the claims allows the ram member to free fall above the preload position and, just prior to reaching the impact position, forms a seal chamber that results in a preload force being applied. Without such a strategically located vent port, the ram member of a drop hammer will not drop.

Because of the differences in the fundamental operating principles of a diesel hammer and a drop hammer, the Applicant respectfully submits that one of ordinary skill in the art would not be motivated to combine these technologies. The Applicant thus respectfully requests withdrawal of the rejection based on the combination of the Fleishman and Scheid references.

However, even if proper, the Applicant respectfully submits that the combination of the Fleishman and Scheid references does not disclose, teach, or suggest the present invention as recited in claims 1, 13, and 18. In particular, these references do not disclose the arrangement of the vent port as recited in claims 1, 13, and 18 or even recognize that a preload force is desirable. Because the prior art has failed to recognize the beneficial effects of a preload force during pile driving, the Applicant respectfully submits that, absent the Applicant's own disclosure, nothing in the record would motivate one of ordinary skill in the art to modify the drop hammer of the Fleishman reference with the seals of the Scheid reference in conjunction with a vent port that yields a preload force.

Given the foregoing, the Applicant respectfully submits that the Examiner has employed impermissible hindsight to combine the Fleishman and Scheid references. The Applicant thus respectfully requests withdrawal of the rejection based on the combination of the Fleishman and Scheid references for this additional reason.

The Applicant respectfully submits that claims 1, 13, and 18 are in condition for allowance, and such allowance is respectfully requested.

Because of the clarifying amendments to claims 1, 13, and 18, the Applicant has cancelled claims 5, 15, and 19. The Applicant has further amended claims 6, 8, and 9 such that the language therein is consistent with the language of amended claim 1. Claims 4, 6, 8, 9, 12 further define claim 1, and claim 21 further defines claim 18, so claims 4, 6, 8, 9, 12, and 18 should also be in condition for allowance.

Given the foregoing, the Applicant respectfully submits that currently pending claims 1, 4, 6, 8, 9, 12, 13, 18, and 21 are in condition for allowance, and such allowance is respectfully requested.

Submitted herewith is a document (entitled Exhibit A - Listing of All Claims and Amendments (01-10-08)) containing a listing of the claims as currently presented. The

attached Listing contains the text of each pending claim, along with any amendments made hereby (illustrated using strikethrough and underlining) and the status of each pending claim.

If there is any matter which could be expedited by consultation with the Applicant's attorney, such would be welcome. The Applicant's attorney can normally be reached at the telephone number below.

Signed at Bellingham, County of Whatcom, State of Washington this 10th day of January, 2008.

Respectfully submitted,

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CERTIFICATE OF MAILING
37 C.F.R. §1.8

I hereby certify that this paper (along with any paper referred to as being attached or enclosed) is being deposited with the United States Postal Service as first class mail in an envelope addressed to Mail Stop Non-Fee Amendment, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450, on the date shown below.

Signature: Susie Hubka

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Date: January 10, 2008